CLAIMS

1. Emitter controller comprising:

a controller, connected to a power source; and

a power amplifier connected to said controller, said power source and an emitter,

said controller providing a pulse sequence to said power amplifier for operating said emitter, said controller determining said pulse sequence according to an available power voltage level.

2. The emitter controller according to claim 1, further comprising a voltage regulator connected to said controller and to said power source, providing voltage regulated power to said controller.

3. The emitter controller according to claim 2, further comprising a voltage multiplier connected between said voltage regulator and said power source, said voltage multiplier receiving a power signal from said power source, multiplying the voltage level of said power signal by a predetermined factor and providing a voltage multiplied power signal to said voltage regulator.

4. The emitter controller according to claim 1, wherein said controller provides a power cut command to said power amplifier to cease

operation of said emitter when said available power voltage level is lower than a predetermined minimal voltage level.

5. The emitter controller according to claim 1, further comprising an indicator connected to said controller, said power source and to said emitter, for indicating the mode of operation of said emitter.

6. The emitter controller according to claim 5, wherein said indicator type is selected from the list consisting of:

visual; and

audible.

7. The emitter controller according to claim 1, wherein said power amplifier periodically heats said emitter.

8. Method for operating an emitter controller, comprising the steps of:

detecting a voltage level of a power signal to be provided to an emitter connected to said emitter controller;

determining a heating time period according to said detected voltage level, and a target heating temperature; and

producing a pulse signal according to said heating time period, for operating an amplifier connected between said emitter and said emitter controller, at said detected voltage level.

9. The method according to claim 8, further comprising the step of determining a cooling time period according to said target heating temperature and to the characteristics of said emitter.

10. The method according to claim 9, wherein said pulse signal is further produced according to said cooling time period.

11. The method according to claim 8, further comprising the step of emitting a periodic infra red radiation according to said pulse signal.

12. The method according to claim 10, further comprising the step of emitting a periodic infra red radiation according to said pulse signal.

13. The method according to claim 8, further comprising the step of determining said target heating temperature.

14. Emitter system comprising:

an infra red emitter;

a controller, to be connected to a power source; and

a power amplifier connected to said controller, said power source and to said emitter,

said controller providing a pulse sequence to said power amplifier for operating said emitter, said controller determining said pulse sequence according to an available power voltage level.

15. The emitter system according to claim 14, further comprising a voltage regulator connected to said controller and to said power source, providing voltage regulated power to said controller.

16. The emitter system according to claim 15, further comprising a voltage multiplier connected between said voltage regulator and said power source, said voltage multiplier receiving a power signal from said power source, multiplying the voltage level of said power signal by a predetermined factor and providing a voltage multiplied power signal to said voltage regulator.

17. The emitter system according to claim 14, wherein said controller provides a power cut command to said power amplifier to cease operation of said infra red emitter when said available power voltage level is lower than a predetermined minimal voltage level.

18. The emitter controller according to claim 14, further comprising an indicator connected to said controller, said power source and to said

infra red emitter, for indicating the mode of operation of said infra red emitter.

19. The emitter controller according to claim 18, wherein said indicator type is selected from the list consisting of:

visual; and

audible.

20. The emitter system according to claim 14, further comprising a power source connected to said controller and to said power amplifier.

21. The emitter system according to claim 16, further comprising a power source connected to said controller, said voltage multiplier and to said power amplifier.

22. The emitter system according to claim 14, wherein said infra red emitter comprises:

a reflective base;

two conductive poles, emerging from said reflective base, electrically insulated from said reflective base;

a high emissivity wire, electrically connected between said conductive poles, emitting infra red radiation when conducting electrical current provided through said conductive poles; and

a housing,

said reflective base including a reflective surface.

23. The emitter system according to claim 22, wherein said housing further includes a window, said reflective surface directs said infra red radiation toward said window.

24. The emitter system according to claim 22, wherein said high emissivity wire is made of a filament wire.

25. The emitter system according to claim 24, wherein said filament wire is of a length in the range of 0.20 inches and 0.60 inches.

26. The emitter system according to claim 24, wherein said filament wire is of a length of 0.40 inches.

27. The emitter system according to claim 24, wherein said filament wire is of a width in the range of 0.020 inches and 0.060 inches.

28. The emitter system according to claim 24, wherein said filament wire is of a thickness in the range of 0.00020 inches and 0.00060 inches.

29. The emitter system according to claim 22, wherein said high emissivity wire forms the shape of a helix.

30. The emitter system according to claim 29, wherein said high emissivity wire has a diameter in the range of 0.003 inches and 0.030 inches.

31. The emitter system according to claim 29, wherein said helix shape of said high emissivity wire includes a plurality of windings, the number of said windings being in the range of four windings and fifty windings.

32. The emitter system according to claim 23, wherein said window is made of a transparent material.

33. The emitter system according to claim 23, wherein said window is made of a semi-transparent material.

34. The emitter system according to claim 23, wherein said window is made of a material which is transparent to mid Infrared radiation.

35. The emitter system according to claim 23, wherein said window is made of a material which is transparent to long Infrared radiation.

36. The emitter system according to claim 23, wherein said window is made of a material which is selected from the list consisting of:

germanium;

zinc;

zinc-selenide; and

silicon.

37. The emitter system according to claim 23, wherein said window comprises a lens.

38. Infra red emitter comprising:

a reflective base;

two conductive poles, emerging from said reflective base, electrically insulated from said reflective base;

a high emissivity wire, electrically connected between said conductive poles, emitting infra red radiation when conducting electrical current provided through said conductive poles; and

a housing,

said reflective base including a reflective surface.

39. The emitter system according to claim 38, wherein said housing further includes a window, said reflective surface directs said infra red radiation toward said window.

Sub A1 end

40. The infra red emitter according to claim 38, wherein said high emissivity wire is made of filament wire.

41. The infra red emitter according to claim 40, wherein said filament wire is of a length in the range of 0.20 inches and 0.60 inches.

42. The infra red emitter according to claim 40, wherein said filament wire is of a length of 0.40 inches.

43. The infra red emitter according to claim 40, wherein said filament wire is of a width in the range of 0.020 inches and 0.060 inches.

44. The infra red emitter according to claim 40, wherein said filament wire is of a thickness in the range of 0.00020 inches and 0.00060 inches.

45. The infra red emitter according to claim 38, wherein said high emissivity wire forms the shape of a helix.

46. The infra red emitter according to claim 45, wherein said high emissivity wire has a diameter in the range of 0.003 inches and 0.030 inches.

Sub A2

47. The infra red emitter according to claim 45, wherein said helix shape of said high emissivity wire includes a plurality of windings, the number of said windings being in the range of four windings and fifty windings.